EPA

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Environmental Protection
Agency

Solid Waste And
Emergency Response
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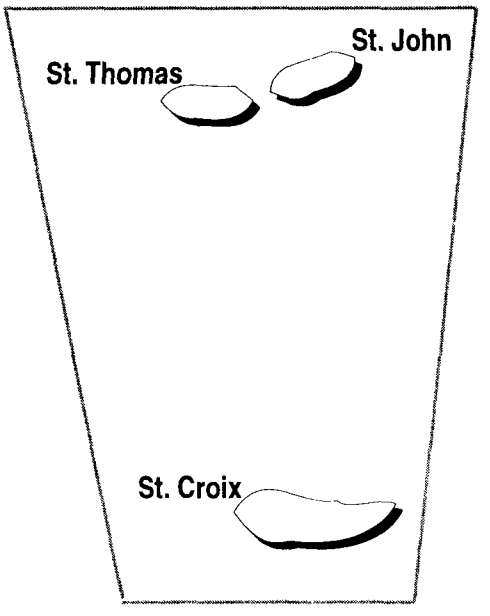
May 1995

SUPERFUND: Progress at National Priority List Sites



PUERTO RICO & VIRGIN ISLANDS 1995 UPDATE

Printed on Recycled Paper

How to Use the NPL Book

The site fact sheets presented in this book are comprehensive summaries that cover a broad range of information. The fact sheets describe hazardous waste sites on the NPL and their locations, as well as the conditions leading to their listing ("Site Description"). The summaries list the types of contaminants that have been discovered and related threats to public and ecological health ("Threats and Contaminants"). "Cleanup Approach" presents an overview of the cleanup activities completed, underway, or planned. The fact sheets conclude with a brief synopsis of how much progress has been made in protecting public health and the environment. The summaries also pinpoint other actions, such as legal efforts to involve polluters responsible for site contamination and community concerns.

The fact sheets are arranged in alphabetical order by site name. Because site cleanup is a dynamic and gradual process, all site information is accurate as of the date shown on the bottom of each page. Progress is always being made at NPL sites, and the EPA periodically will update the site fact sheets to reflect recent actions. The following two pages show a generic fact sheet and briefly describe the information under each section.

How Can You Use This State Book?

You can use this book to keep informed about the sites that concern you, particularly ones close to home. The EPA is committed to involving the public in the decision making process associated with hazardous waste cleanup. The Agency solicits input from area residents in communities affected by Superfund sites. Citizens are likely to be affected not only by hazardous site conditions, but also by the remedies that combat them. Site cleanups take many forms and can affect communities in different ways. Local traffic may be rerouted, residents may be relocated, temporary water supplies may be necessary.

Definitive information on a site can help citizens sift through alternatives and make decisions. To make good choices, you must know what the threats are and how the EPA intends to clean up the site. You must understand the cleanup alternatives being proposed for site cleanup and how residents may be affected by each one. You also need to have some idea of how your community intends to use the site in the future, and you need to know what the community can realistically expect once the cleanup is complete.

The EPA wants to develop cleanup methods that meet community needs, but the Agency only can take local concerns into account if it understands what they are. Information must travel both ways in order for cleanups to be effective and satisfactory. Please take this opportunity to learn more, become involved, and assure that hazardous waste cleanup at "your" site considers your community's concerns.

NPL LISTING HISTORY

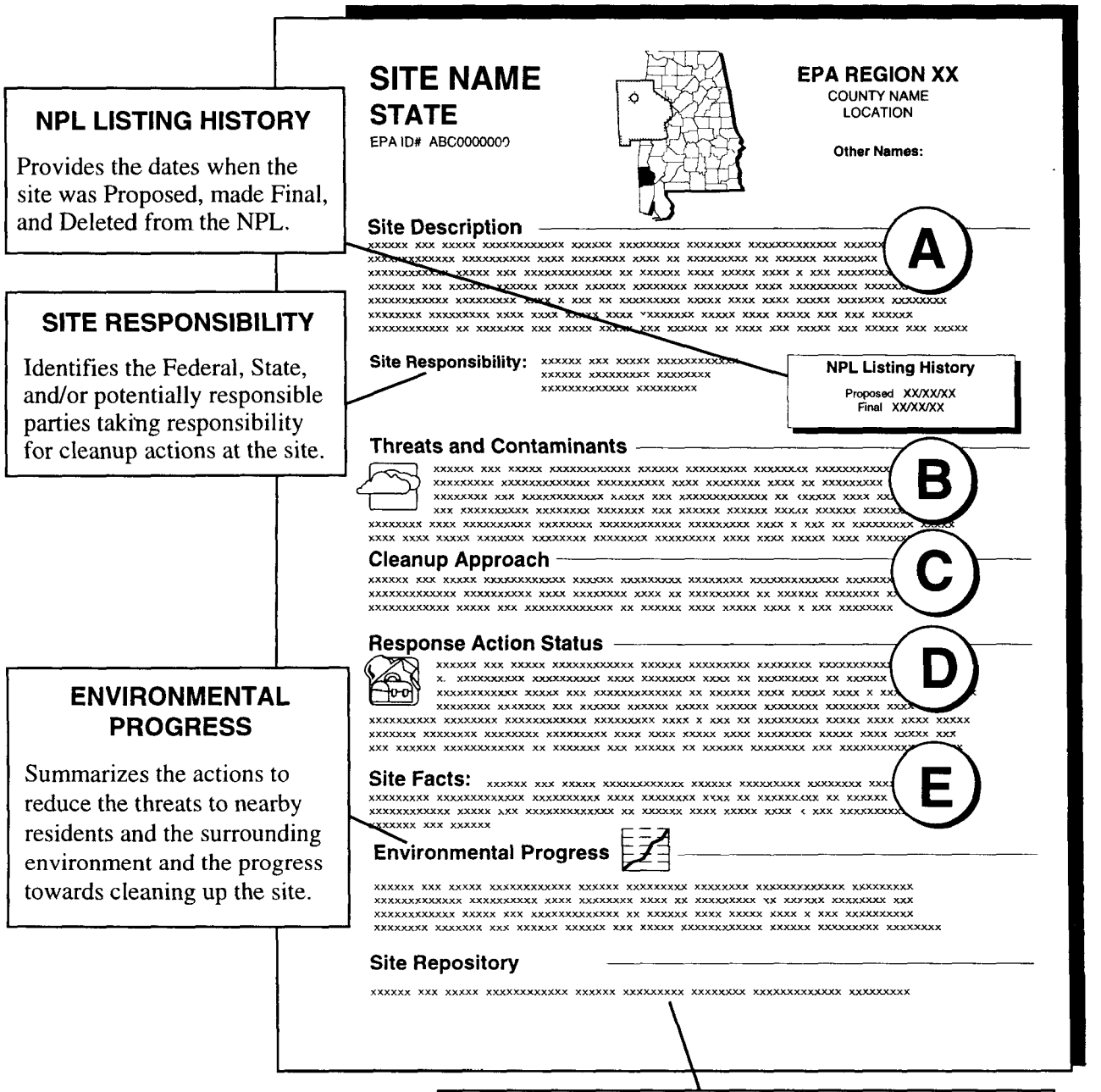
Provides the dates when the site was Proposed, made Final, and Deleted from the NPL.

SITE RESPONSIBILITY

Identifies the Federal, State, and/or potentially responsible parties taking responsibility for cleanup actions at the site.

ENVIRONMENTAL PROGRESS

Summarizes the actions to reduce the threats to nearby residents and the surrounding environment and the progress towards cleaning up the site.



SITE REPOSITORY

Lists the location of the primary site repository. The site repository may include community relations plans, public meeting announcements and minutes, fact sheets, press releases, and other site-related documents.

A

SITE DESCRIPTION

This section describes the location and history of the site. It includes descriptions of the most recent activities and past actions at the site that have contributed to the contamination. Population estimates, land usages, and nearby resources give readers background on the local setting surrounding the site.

B

THREATS AND CONTAMINANTS

The major chemical categories of site contamination are noted, as well as which environmental resources are affected. Icons representing each of the affected resources (may include air, groundwater, surface water, soil, and contamination to environmentally sensitive areas) are included in the margins of this section. Potential threats to residents and the surrounding environments arising from the site contamination also are described.

C

CLEANUP APPROACH

This section contains a brief overview of how the site is being cleaned up.

D

RESPONSE ACTION STATUS

Specific actions that have been accomplished or will be undertaken to clean up the site are described here. Cleanup activities at NPL sites are divided into separate phases, depending on the complexity and required actions at the site. Two major types of cleanup activities often are described: initial, immediate, or emergency actions to quickly remove or reduce imminent threats to the community and surrounding areas; and long-term remedial phases directed at final cleanup at the site. Each stage of the cleanup strategy is presented in this section of the summary. Icons representing the stage of the cleanup process (initial actions, site investigations, EPA selection of the cleanup remedy, engineering design phase, cleanup activities underway, and completed cleanup) are located in the margin next to each activity description.

E

SITE FACTS

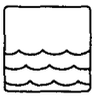
Additional information on activities and events at the site are included in this section. Often details on legal or administrative actions taken by the EPA to achieve site cleanup or other facts pertaining to community involvement with the site cleanup process are reported here.

Guide to the NPL Book Icons

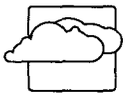
The "icons," or symbols, accompanying the text allow the reader to see at a glance which environmental resources are affected and the status of cleanup activities at the site.

Icons in the Threats and Contaminants Section

Contaminated *Groundwater* resources in the vicinity or underlying the site. (Groundwater is often used as a drinking water source.)



Contaminated *Surface Water and Sediments* on or near the site. (These include lakes, ponds, streams, and rivers.)



Contaminated *Air* in the vicinity of the site. (Air pollution usually is periodic and involves contaminated dust particles or hazardous gas emissions.)

Contaminated *Soil and Sludges* on or near the site. (This contamination category may include bulk or other surface hazardous wastes found on the site.)

Threatened or contaminated *Environmentally Sensitive Areas* in the vicinity of the site. (Examples include wetlands and coastal areas or critical habitats.)

Icons in the Response Action Status Section

Initial, Immediate, or Emergency Actions have been taken or are underway to eliminate immediate threats at the site.

Site Studies at the site to determine the nature and extent of contamination are planned or underway.

Remedy Selected indicates that site investigations have been concluded, and the EPA has selected a final cleanup remedy for the site or part of the site.

Remedy Design means that engineers are preparing specifications and drawings for the selected cleanup technologies.

Cleanup Ongoing indicates that the selected cleanup remedies for the contaminated site, or part of the site, currently are underway.

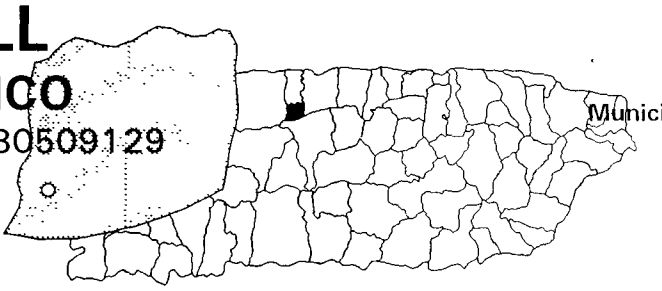
Cleanup Complete shows that all cleanup goals have been achieved for the contaminated site or part of the site.

EPA ID Number	Site Name
PRD980509129	BARCELONETA LANDFILL
PRD980763783	FIBERS PUBLIC SUPPLY WELLS
PRD980640965	FRONTERA CREEK
PRD090282757	GE WIRING DEVICES
PRD980512362	JUNCOS LANDFILL
PR4170027383	NAVAL SECURITY GROUP ACTIVITY
PRD090370537	RCA DEL CARIBE
PRD980301154	UPJOHN FACILITY
PRD980763775	VEGA ALTA PUBLIC SUPPLY WELLS
VID980651095	ISLAND CHEMICAL CORP/V.I. CHEMICAL CORP
VID982272569	TUTU WELLFIELD

BARCELONETA LANDFILL

PUERTO RICO

EPA ID# PRD980509129



EPA REGION 2

Florida County
Florida Afuera

Other Names:
Municipal Landfill Barceloneta

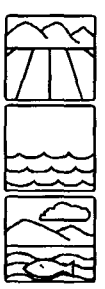
Site Description

The 20-acre Barceloneta Landfill site is an active landfill. About 300 tons of hazardous wastes have been placed in sinkholes, some of which are 100 feet deep. No artificial or natural barrier exists to keep wastes from moving into the groundwater; the limestone formations underlying the site promote the rapid transport of contaminants. Groundwater is the drinking source in the area and is also used for irrigation. No contamination has been found off site to date, but pollution of drinking supplies is possible. The surrounding area is commercial, residential, and agricultural. Approximately 12,000 people live within a 3-mile radius of the site, and the nearest home is about 500 feet away. Area residents use the site for scavenging and for driving all-terrain vehicles. People swim and fish in Quebrada Cimarrona, a stream located on the site.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants



Preliminary on-site sampling results have identified various heavy metals and volatile organic compounds (VOCs) in sludges. The same sampling data disclosed toluene in surface water and heavy metals in water runoff. People may experience adverse health effects from touching contaminated soils and inhaling contaminated dust. Swimming in the on-site stream may be a health risk, as well as eating fish from the contaminated waters. Cattle grazing on adjacent land may be exposed to contamination from the site. Furthermore, the area of the site is a breeding ground for the Puerto Rican boa, designated as an endangered species by the U.S. Fish and Wildlife Service.

Cleanup Approach

This site is being addressed in a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status

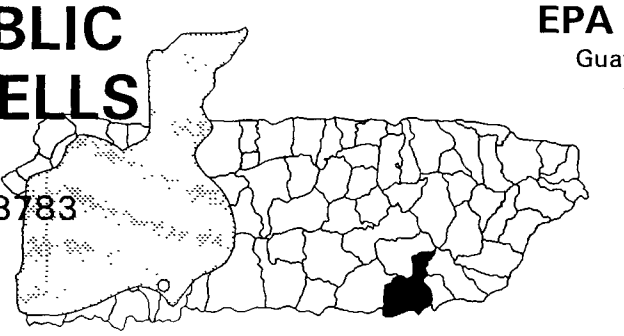
Entire Site: In 1988, the EPA began an intensive study of pollution problems at the site. This investigation currently is being conducted by the parties potentially responsible for contamination at the site under EPA monitoring and will explore the nature and extent of soil and water contamination. It is scheduled for completion in 1995, at which time the EPA will select the best strategies for final site cleanup.

Site Facts: Two Notice Letters were sent to potentially responsible parties in 1983. In 1988, an additional search for potentially responsible parties identified several parties that had used the landfill. On September 1990, an Administrative Order on Consent was signed by eight industries, a waste transporter, the municipality of Barceloneta, and the EPA, in which the parties agreed to complete the site investigation. The site investigation is currently underway.

Environmental Progress

After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Barceloneta Landfill site while further studies are being completed and the long-term cleanup activities are being planned.

FIBERS PUBLIC SUPPLY WELLS
PUERTO RICO
EPA ID# PRD980763783



EPA REGION 2
Guayama County
Guayama

Site Description

The Fibers Public Supply Wells serve as a stand-by water supply for Guayama. Four of the five wells are closed due to contamination by halogenated solvents. The U.S. Geological Survey detected the contamination in 1982 during a survey of public water wells. A synthetic fiber manufacturing plant operated in an area believed to be immediately upgradient of the supply wells. Wastewater from solvent cleaning of the machinery was emptied into two lagoons near the southwestern corner of the site before liners were installed in 1969, as well as later, when the liners were not intact. In 1985, the two wastewater settling ponds were converted into a stormwater retention basin. This conversion consisted of removing approximately 2,000 cubic yards of soil from the lagoons. The material was then spread over the northwestern corner of the project site. The wastewater subsequently was piped to an off-site biological treatment system. During the excavation process, the liners in some areas of both of the lagoons were found missing. A pharmaceutical manufacturing facility currently operates on the site. The Fibers Public Supply Wells site is located in an industrial and agricultural area in the Municipality of Guayama, with a population of approximately 41,000. There are approximately 50 residents living adjacent to the site.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 09/08/83
Final Date: 09/21/84

Threats and Contaminants

On-site monitoring well sampling results identified various volatile organic compounds (VOCs) believed to have originated from a nearby fiber manufacturer. The soil also is contaminated with various VOCs. Individuals may be at risk if direct contact is made with contaminated groundwater or soil. Closing the contaminated wells has reduced the potential for drinking contaminated groundwater.

Cleanup Approach

This site is being addressed in three stages: initial actions and two long-term remedial phase focusing on cleanup of the entire site.

Response Action Status

Initial Actions: Water supply wells were closed after a 1982 survey detected contamination.

Soil: In 1991, the parties potentially responsible for site contamination completed an investigation into the nature and extent of contamination at the site. Removal of contaminated soil was selected as a cleanup remedy in the fall of 1991. A design for the remedy was completed in the fall of 1993. In early 1994, contaminated soil was removed and cleanup activities were completed.

Groundwater: In late 1992, the potentially responsible parties began a design of the selected groundwater pump and treat remedy, which provides for discharge to the Puerto Rico Environmental Protection Agency (PREPA) irrigation well. The design is scheduled for completion in late 1995.

Site Facts: Phillips Petroleum Company and the Chevron Chemical Company signed an Administrative Order on Consent in 1985 requiring them to perform an investigation into the extent of contamination and to identify alternative technologies for cleanup. American Home Products Corporation (AHP) signed an Administrative Order in 1986, agreeing to conduct sampling and analysis at the plant site in Guayama. In 1987, American Home Products signed a new order to perform a more detailed field investigation. The investigation was concluded in 1991, at which time EPA selected remedies for site contamination. In September, 1992, the responsible parties, Anaquest Caribe, Inc., Phillips Petroleum Company, American Home Products Corporation and Chevron Chemical Company entered into a Consent Decree wherein they agreed to perform the clean up selected by EPA and reimburse past and future expenses of the United States.

Environmental Progress

By removing the contaminated water wells from service, the potential for exposure to contaminated drinking water was virtually eliminated. Cleanup progress now includes completing the removal of the contaminated soils. The design for groundwater treatment is currently underway and is scheduled for completion in the fall of 1995.

FRONTERA CREEK
PUERTO RICO
EPA ID# PRD980640965

EPA REGION 2
Humacao County
Rio Abajo

Other Names:
Ciudad Cristiana

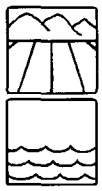
Site Description

The 100-acre Frontera Creek site consists of areas that lie east of the town of Junquito and extend to the creeks that enter into the Caribbean Sea, industrial properties adjacent to Frontera Creek, North and South Frontera Lagoons, and the Ciudad Cristiana Housing Development. From 1971 until 1981, various nearby industrial properties discharged industrial waste directly into Frontera Creek. The public became concerned about the creek's possible contamination in 1977, following the death of thirty cows that had grazed in the affected area. Subsequent investigations by the EPA and several local industries confirmed that contaminants, including mercury and the pesticide lindane, were present in the creek. Several industries were identified as contributing to site contamination. The Puerto Rico Environmental Quality Board (PREQB) fined one of them, Technicon, in 1978 for discharging mercury into the creek. The 500 residents of the housing development of Ciudad Cristiana, which was built along the creek in 1979, began to complain of health problems within a year after their arrival. Blood and urine samples of the residents, obtained by the Puerto Rico Department of Health (PRDH), showed above-normal concentrations of mercury. In addition, investigations conducted by the PREQB found that soil in and near the development was contaminated with mercury. As a result, the Governor of Puerto Rico ordered an immediate permanent evacuation of the 500 residents of Ciudad Cristiana. Studies conducted by the EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) concluded that the mercury levels were not high enough to warrant an immediate evacuation of the residents. However, the EPA proceeded with a full investigation of the Frontera Creek site because of the known contamination. Local residents used the lagoons for fishing and recreation; the fish and the shellfish caught there were important components of the local diet.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants



Mercury in the soils and sediments in the Technicon ditch may present a risk to workers or others that come into contact with these contaminated materials.

Cleanup Approach

This site is being addressed in a single long-term remedial phase focusing on cleanup of the entire site.

Response Action Status

Entire Site: The plan for investigating the site contamination, conducted by the potentially responsible parties, was approved by the EPA and the Commonwealth of Puerto Rico in 1986. The investigation was completed in 1991. The EPA cleanup remedies were selected in September 1991, which included excavating the sediments in the Technicon ditch leading to Frontera Creek and removing some soils on the Technicon property. The responsible parties, Miles Diagnostics Corporation, Miles, Inc., Cooper Development Company, and Revlon, Inc. entered into an agreement to perform the clean up selected by the EPA and reimburse past and future costs of the United States. The design for cleanup is currently underway, and is scheduled for completion in late 1994.

Site Facts: An Administrative Order on Consent was signed by the potentially responsible parties in 1986, requiring them to perform an investigation of site contamination. The Consent Decree to perform site cleanup actions was signed by the responsible parties in May 1992 and entered in Federal District Court on October 8, 1993.

Environmental Progress

After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required to protect the residents living near the Frontera Creek site while long-term cleanup activities are being designed.

GE WIRING DEVICES
PUERTO RICO
EPA ID#PRD090282757

EPA REGION 2
Juana Diaz County
Juana Diaz

Site Description

General Electrical Company Wiring Devices manufactured mercury light switches at this 5-acre site from 1957 until 1969. Approximately 1/2 ton of mercury was discarded, along with 4,000 cubic yards of defective switch parts and plastic scraps, into a 1/2-acre waste area located on the site. A concrete retaining wall and a fence separate the waste area from nearby residences. An estimated 500,000 gallons of water found just beneath the surface have accumulated within the waste area as a result of rainfall and infusion of groundwater in the waste pit. Investigations at the site have shown that contamination of the water table may occur due to the migration of water through the clay layer that exists beneath the waste area. There are approximately 10,000 people living within 3 miles of the waste area. Groundwater in the area is used as a source of drinking water, with a public supply well located approximately 1,500 feet west of the waste area.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

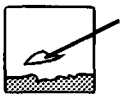
Threats and Contaminants

Groundwater, soil, and debris located in the waste area are contaminated with mercury from the former manufacturing activities. The inhalation of mercury vapors from the site poses the greatest potential health risk. Mercury detected on site is primarily organic mercury, considerably more toxic than other forms. During excavation, workers could be exposed to mercury-contaminated soils. Groundwater from the site is flowing towards the west and could eventually contaminate the San Jacaquas River.

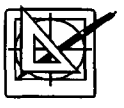
Cleanup Approach

This site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status



Immediate Actions: General Electric installed a storm drain system and retaining wall in 1982 as a preliminary action to control migration of surface mercury contamination toward nearby residential areas.



Entire Site: Based on the results of the site investigation, in September 1988, EPA selected the final methods to be used for cleanup of the site including: conducting treatability studies on the soil and debris and treating the waste materials, water, and contaminated on-site surface soil with a process that separates the mercury from soils with leaching agents and metal recovery; disposing of treated material to waste areas located on the site; conducting additional groundwater and soil investigations; and monitoring groundwater and air to ensure the effectiveness of the cleanup actions. General Electric conducted the groundwater study. Groundwater has not been impacted by the waste pile. The treatability studies conducted by the US Bureau of Mines on the hydrometallurgical treatment of the mercury waste were found to be ineffective. General Electric has conducted treatability studies on other processes, including a different hydrometallurgical treatment. Primary results indicated that the situation was favorable for mercury recovery. General Electric will be conducting a full scale pilot test to fully evaluate this technology. General Electric completed the additional soil sampling near the waste pile and the residential yards in August 1993. Preliminary design of the hydrometallurgical treatment process began in the fall of 1994 and is expected to be completed in 1995.

Site Facts: An Administrative Order of Consent was signed by General Electric to undertake the investigation to determine the nature and extent of contamination and to identify alternatives for cleanup, as well as responsibility for designing the methods and conducting the overall cleanup of the site.

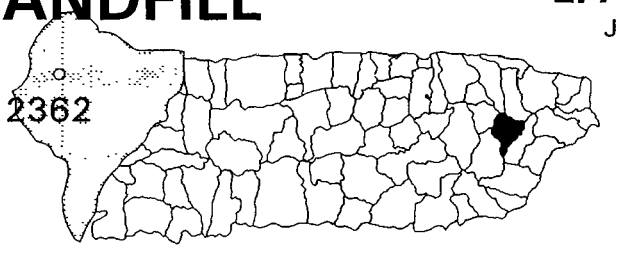
Environmental Progress

The immediate actions described above stopped the potential migration of contaminants from the GE Wiring Devices site to nearby residential areas, making it safer while long-term cleanup activities are being designed.

JUNCOS LANDFILL

PUERTO RICO

EPA ID# PRD980512362



EPA REGION 2

Juncos County
Juncos

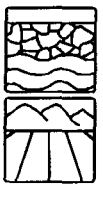
Site Description

The 11-acre Juncos Landfill is a closed municipal landfill at which thermometers containing mercury have been dumped. Small leachate seeps and soil erosion were evident during the site inspections conducted by the EPA. Of greatest concern are houses adjacent to the landfill. The community is served from a public water supply. Limited barriers exist to prevent local residents or animals from entering the site. There are approximately 10,000 people living within a 3-mile radius of the site. Several small creeks are located near the landfill.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants



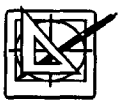
The groundwater and soil are contaminated with heavy metals and chloroform. Touching or accidentally ingesting the contaminated soil could lead to potential health hazards. Pollutants may seep from the landfill into the groundwater. Ingestion of contaminated groundwater may pose a health hazard.

Cleanup Approach

This site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on cleanup of the landfill and contaminated groundwater.

Response Action Status

Immediate Actions: In 1984, the parties potentially responsible for the contamination posted signs and installed a partial fence around the site; they also covered the landfill and the discarded mercury-containing thermometers with topsoil.



Landfill: The potentially responsible parties began a study in 1984 to evaluate the nature and extent of the contamination associated with the landfill wastes. The work was completed in 1991. In September 1991, EPA selected a remedy that called for installation of a cap on the landfill. The design for the cleanup activities began in late 1992 and is scheduled for completion in 1995.

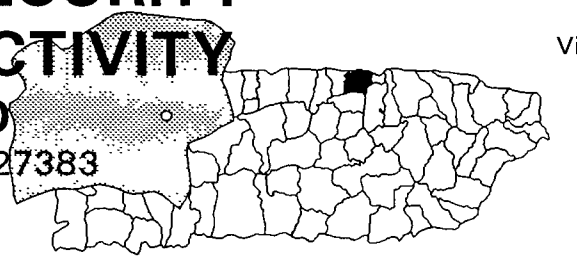
Groundwater Contamination: The studies conducted to determine the nature and extent of groundwater contamination at the site and to evaluate various cleanup alternatives were completed in the fall of 1993. In October 1993, EPA selected a remedy that allowed for natural attenuation of the contaminants in the groundwater, institutional controls to restrict its use until it reaches safety levels, and groundwater monitoring.

Site Facts: A Consent Order was signed with Becton Dickinson, in which the company was responsible for immediate corrective actions at the landfill in 1984. An Administrative Order also was issued by the EPA in 1984 to Becton Dickinson to study the nature and extent of contamination at the site. A Unilateral Administrative Order was issued by EPA on September 30, 1992 to four industries and three present and past owners requiring them to implement the remedy for the landfill.

Environmental Progress

The immediate actions described above have limited the access to the site, reducing the potential for exposure to hazardous materials at the Juncos Landfill site while cleanup activities are being designed.

NAVAL SECURITY GROUP ACTIVITY
PUERTO RICO
EPA ID# PR4170027383



EPA REGION 2
Toa Baja County
Village of Sabana Seca

Other Names:
Sabana Seca

Site Description

The 2,200-acre Naval Security Group Activity site, a naval communications station which operates a high-frequency direction finding facility, lies next to Sabana Seca, about 11 miles west of San Juan, and is divided into North and South Tracts. From the early 1950s through 1970, the operation's Public Works Department deposited all waste generated at the station at various areas on the South Tract. Materials included paints, solvents, waste oil, and battery acid. A pest control shop also was run on the South Tract from the 1950s through 1979. Workers spilled various pesticides around the shop building. They also mixed pesticides and cleaned applicators in a sink outside the shop that discharged directly to the ground. In 1984, soil samples showed elevated levels of arsenic, lead, and chlordane. Rain could wash soil contaminants through a drainage ditch to a marsh, and the fractured limestone bedrock may allow pollutants to move into the groundwater. Initial studies identified seven potentially contaminated sites, including the former pest control shop and a leachate ponding area. Approximately 47,000 people living in and around the station obtain drinking water from public wells within 3 miles of the site. Groundwater also is used for stock watering and industrial processes. Surface water within 3 miles downstream of the shop is used for recreational fishing. The San Pedro Marsh, a large coastal wetland, is within 1,000 feet of both tracts.

Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY
Proposed Date: 06/24/88
Final Date: 10/04/89

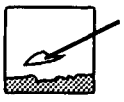
Threats and Contaminants

Soils outside the pest control shop are contaminated with various heavy metals and pesticides. PCB-contaminated materials from another off-site location are stored near the pest control shop. Potential routes for migration of contaminants may threaten the sensitive coastal wetlands. The Cocal River is known to support numerous fish, as well as crab and shrimp species. Blue Land Crabs are abundant in the San Pedro Swamp and are recreationally harvested from it. Stormwater runoff from the shop enters a drainage ditch that empties into a stream. The Puerto Rican boa, designated by the U.S. Fish and Wildlife Service as an endangered species, has been sighted in numerous locations on the station.

Cleanup Approach

This site is being addressed in four remedial stages: an initial action and three long-term remedial phases focusing on cleanup of pesticide shop soil and water pollution, and pistol range disposal and leachate pond areas.

Response Action Status



Initial Action: In 1988, the Navy installed a fence around the former pest control shop to prevent exposure to the spilled pesticides.

Pesticide Control Shop: The Navy began an intensive study of soil and water pollution at the site in early 1993. This investigation will explore the nature and extent of contamination and will recommend the best strategies for final cleanup. The study is scheduled for completion in late 1995.

Pistol Range Disposal and Leachate Pond Areas: Beginning in 1993, the Navy began an investigation of the pistol range disposal and leachate pond areas. Contaminated leachate at the leachate pond area apparently originates from the municipal landfill off site, but is being included in the study to protect base water supplies. Several monitoring wells have been installed to determine whether the Navy water supply is in danger. The sites investigation is scheduled for completion in late 1995.

Disposal Areas: Beginning in 1993 the Navy started preliminary site investigations of the Disposal Areas at Bunker 607 and N. and S. Stone Road to determine if further investigation is required.

Site Facts: An Interagency Agreement was signed between the EPA, the Navy, and the Commonwealth of Puerto Rico on March 19, 1992. The site is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DoD) to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities.

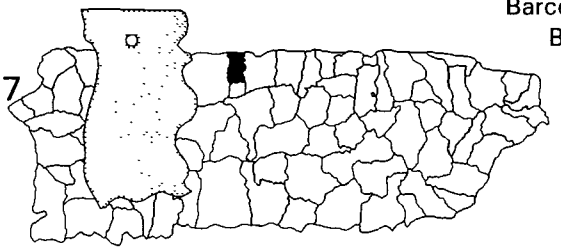
Environmental Progress

Initial fencing of the site has eliminated the possibility of exposure to spilled pesticides around the pesticide shop at the Naval Security Group Activity site while further studies leading to the selection of final long-term cleanup remedies are being completed.

RCA DEL CARIBE

PUERTO RICO

EPA ID# PRD090370537



EPA REGION 2

Barceloneta County

Barceloneta

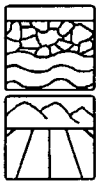
Site Description

The 20-acre RCA Del Caribe site manufactured aperture masks for color television picture tubes and has been in operation since 1971. General Electric acquired RCA in 1986 and has phased out operations since 1987. Spent ferric chloride solution from site operations was stored in four lined surface lagoons. These lagoons were breached by sinkholes, and approximately 1 million gallons of ferric chloride was discharged into the sinkholes. Since 1982, the ferric chloride has been stored in tanks. Process water contaminated with ferric chloride was treated in an on-site wastewater treatment system. The generated sludge was placed into two sludge drying beds and in at least two lagoons. The approximately 12,000 people residing within 3 miles of the site depend on groundwater for drinking water. There is a public water supply well located approximately 3/4 mile from the site. The surrounding area is dedicated to pineapple growing and cattle raising.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants



There was concern that groundwater and soil may have been contaminated with heavy metals including chromium, beryllium, selenium, and iron from the former manufacturing process wastes. Potential health threats may have existed if people touched or accidentally ingested the contaminated groundwater or soil.

Cleanup Approach

This site is being addressed in a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status

Entire Site: The potentially responsible party completed an investigation in the fall of 1994 to determine the nature and extent of contamination and to identify alternatives for cleanup. Five monitoring wells were drilled, and groundwater and soil samples were collected as part of the investigation. In addition, dye tracer studies were completed at the site. After completion of the study, the EPA chose to conduct no further action at the site. Risk levels for human health were determined to be within EPA standards for acceptable levels of contamination.

Site Facts: Under an Administrative Order, General Electric Company has conducted site studies and will address closure requirements at the site. In addition, the site is being addressed under the hazardous wastes statutes of the Resource Conservation and Recovery Act (RCRA) program.

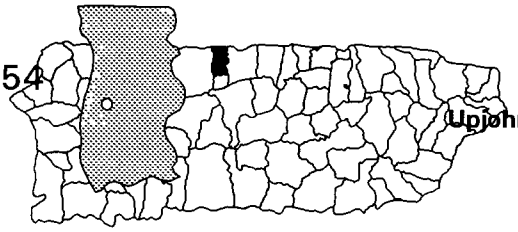
Environmental Progress

The EPA performed investigations at the RCA Del Caribe site and determined that no further actions were required. The current process of treating the ferric chloride is protective of human health and the environment and in accordance with RCRA regulations.

UPJOHN FACILITY

PUERTO RICO

EPA ID# PRD980301154



EPA REGION 2

Barceloneta County
Barceloneta

Other Names:
Upjohn Manufacturing Company
Carbon Tet. Spill

Site Description

The 2-acre Upjohn Facility site contains a pharmaceutical manufacturing plant. In 1982, approximately 15,300 gallons of waste material, including carbon tetrachloride, leaked from an underground storage tank on the site. Six wells were sampled for contamination shortly after the leak was detected; four were taken out of service, and one on the adjacent A.H. Robins property was commissioned as a recovery well. The population affected by the contaminated wells was given alternative water supplies and, subsequently, the company installed a replacement well and connected one area to the public water system. Upjohn also installed 22 groundwater monitoring wells. In 1984, the tank farm area of the facility was covered with a fiberglass-reinforced concrete pad to prevent rainwater from seeping into the ground. The company installed an extraction well downgradient of the spill area to intercept the majority of the contaminated groundwater before it left the site. In addition, 19 vacuum extraction wells were employed to withdraw carbon tetrachloride from the soil. More than 12,000 gallons of carbon tetrachloride have been removed from the soil and groundwater. Upjohn ceased all use of carbon tetrachloride by 1986. The Upjohn facility is located in a sparsely populated area. Two communities, Tiburones and Garrochales, with a population of approximately 3,000 people, are directly affected by the site. The island's largest aquifer is underneath the site and supplies drinking water to 12,000 people. In addition, the aquifer discharges to a wetland area that supports a large aquatic and bird population. The Rio Grande de Arecibo and Rio de Manati are located along the borders of the site.

Site Responsibility: This site is being addressed through Federal and potentially responsible party's actions.

NPL LISTING HISTORY
Proposed Date: 09/08/83
Final Date: 09/21/84

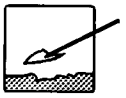
Threats and Contaminants

Groundwater and soil at the site are contaminated with carbon tetrachloride and its by-products from Upjohn's former manufacturing process wastes. Metals detected in the groundwater are believed to be a result of contamination originating from other local industries and development of the stainless steel monitoring wells. People who touch or drink the water from the wells tapping the aquifer may be at risk. The aquifer discharges into wetlands, but the risk to aquatic and terrestrial wildlife is expected to be low based on estimates of existing and future concentrations of contaminants in the environment.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status



Immediate Actions: Upjohn conducted a study of the site in 1983 and performed the initial cleanup actions, including covering some areas and installing extraction wells to remove contaminants from soil and groundwater. However, the EPA determined that additional measures were needed to ensure that the site will not pose a future threat to human health or the environment.

Entire Site: In 1988, the EPA selected a remedy to clean up the site by: continuing to pump the groundwater using the existing extraction wells, treating the contaminated water by air-stripping, and discharging the treated water into a sinkhole on the Upjohn property; completing of a new public water supply well to replace the Garrochales #3 well; adding new extraction wells if the others prove successful in removing contamination; long-term monitoring of the site to ensure the remedy is effective; and re-evaluating the site within 5 years to determine whether cleanup operations need to be continued or modified. In early 1992, Upjohn completed the drilling of the Garrochales #3 replacement well to serve as the new water supply. Hook-up of the new well is expected to be complete in late 1994. While Upjohn has been pumping and treating the groundwater since 1982, the EPA determined that a larger scale effort to remove contaminated groundwater was necessary. The new full-scale pump and treat system will incorporate the system that has been operating since 1982. The technical design for the new system was completed in late 1993. The system is expected to be operational in 1995. The EPA expects that this will be the last cleanup effort required at the Upjohn Facility site.

Site Facts: In 1987, the EPA and Upjohn entered into a Consent Order in which the company agreed to perform studies of the site. In 1989, the EPA issued a Unilateral Administrative Order requiring Upjohn to design and conduct the cleanup remedies selected by the EPA in 1988.

Environmental Progress

The groundwater extraction and treatment process that began as an immediate action, as well as the removal of contaminants from the soil, have reduced the potential for exposure to hazardous substances at the Upjohn site. The EPA anticipates that the full-scale groundwater pump and treat system will be operational in 1995 and will be the final cleanup action required at this site.

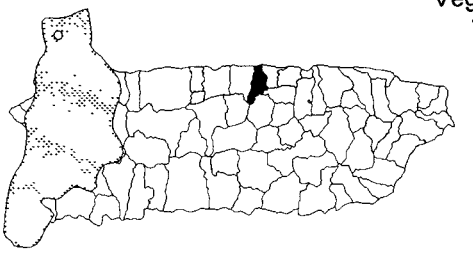
VEGA ALTA PUBLIC SUPPLY WELLS

PUERTO RICO

EPA ID# PRD980763775

EPA REGION 2

Vega Alta County
Vega Alta



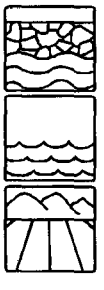
Site Description

The Vega Alta Public Supply Wells site covers 50 acres and consists of nine active and six inactive wells. The wells currently supply about 4 million gallons of water each day to Vega Alta and the surrounding residential areas. The Puerto Rico Aqueduct and Sewer Authority (PRASA) is responsible for operating and maintaining the public water supply system. The U.S. Geological Survey sampled the wells in 1983 and found volatile organic compounds (VOCs) in the Ponderosa well. Subsequently, this well and the GE 1 well were shut down due to contamination. Then PRASA constructed the Bajura 3 well to eliminate the water supply shortage. In 1989, GE 2 and Bajura 3 wells were shut down by PRASA because of non-compliance with drinking water standards. The Maguayo wells were constructed by PRASA to compensate for the shortage. In 1984, an air stripper was installed at the Ponderosa well by PRASA, which removed contaminants by forcing a stream of air through the water. This process continued until 1985, when technical problems with the air stripper arose. Approximately 27,600 people live near the site.

Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 09/08/83
Final Date: 09/21/84

Threats and Contaminants

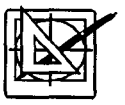


Groundwater, sediments, and soil are contaminated with various VOCs. People who accidentally ingest or come into direct contact with the contaminants may be at risk.

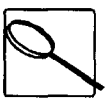
Cleanup Approach

This site is being addressed in two long-term remedial phases focusing on cleanup of groundwater and the entire site.

Response Action Status



Groundwater: In 1987, the EPA selected a remedy to clean up the groundwater by: installing individual treatment systems for PRASA wells GE 1, GE 2, and Bajura 3 and discharging the treated effluent into the PRASA distribution system; treating the Ponderosa well by air stripping and discharging the treated effluent into Honda Creek; shutting down the Monterrey 2 and G & M private wells and hooking up the affected residents to the PRASA distribution system; and conducting an investigation to fully assess and evaluate the source of the contamination. In 1989, EPA modified the 1987 remedy at the urging of the Environmental Quality Board to discharge the treated water from all the wells to Honda Creek. Designs for the well treatment systems were approved in early 1992. Construction of the treatment system at the Ponderosa Well was completed in late 1993 and connection of the G&M private user to the PRASA distribution system was completed in the fall of 1993. Due to a change in the plume configuration resulting from a change in groundwater pumping conditions, the Bajura 3, GE 1 and GE 2 PRASA wells are no longer in appropriate locations to capture the plume. A modification to the EPA selected remedy,which would require the installation of an extraction well in a new location, is expected to be issued during March 1994.



Entire Site: A second investigation was initiated in February 1992 by the potentially responsible parties to determine the potential for the contaminated groundwater plume to migrate from the present treatment area and the nature and extent of contamination at the source of the groundwater contamination. Based on the study results, additional groundwater remedies may be required, as well as clean up of soils and sediments.

Site Facts: General Electric, Motorola, Harman Automotive, The West Company, and the Puerto Rico Industrial Development Corporation were issued a Unilateral Administrative Order (UAO) by the EPA in 1989 requiring them to clean up groundwater contamination at the site. A second UAO was issued by the EPA in August 1990 to the same five potentially responsible parties to investigate the contamination source and groundwater plume that migrated from the treatment area.

Environmental Progress

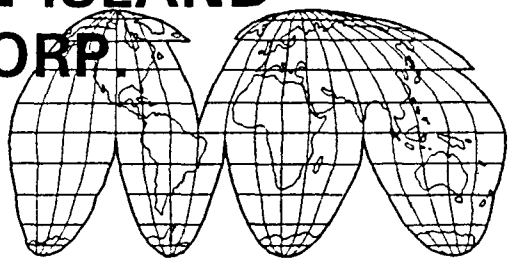
After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were required at the Vega Alta site while long-term groundwater cleanup activities are being designed and implemented.

ISLAND CHEMICAL CORP./VIRGIN ISLAND CHEMICAL CORP.

VIRGIN ISLANDS

EPA ID# VID980651095

EPA REGION 2
St. Croix



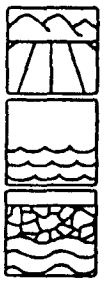
Site Description

The Island Chemical Corp./Virgin Island Chemical Corp. site is an approximately 3 1/2-acre facility located in the southwest portion of St. Croix, U.S. Virgin Islands. The area surrounding the site is mostly commercial; however, the closest resident lives 1/10 mile to the south. An intermittent stream, River Gut, borders the northern and eastern site boundaries and discharges to the Caribbean Sea. The site was leased to both Island Chemical Corp. and Virgin Island Chemical Corp., and has been used for the manufacture of pharmaceutical chemicals, primarily phenacetin, ethoxyquin, and quinidine. Virgin Island Chemical also produced benzyl acetate, used in perfumes, flavorings, resins, lacquers, polishes, printing inks, and varnish removers, as well as benzyl salicylate, used as a perfume fixative, a solvent for synthetic musk, and in sunscreen lotion and soap odorant. During an investigation of the site in 1984, three areas of concern were identified including an 8,000-gallon process pit, the associated drainage line from the pit to River Gut, and contaminated soil at various locations on site. Soil samples indicated the presence of various organic compounds, including toluene and pyridine. All contaminated soil detected during the site investigation was reported to have been either removed or treated on site using biodegradation. Additional investigations in 1985 and 1986 by Resource Conservation and Recovery Act (RCRA) enforcement staff indicated the presence of phthalates, benzene, chloroform, and polynuclear aromatic hydrocarbons (PAHs), chromium and zinc. In 1989, the laboratory/warehouse building was found to contain approximately 400 drums, some extremely deteriorated; leaking cylinders of chlorine and hydrogen chloride; and over 800 containers of laboratory reagents that included sodium metal, potassium cyanide, and ethyl ether. In 1991, results of analyses showed high concentrations of chloroform in groundwater, elevated levels of various organic and inorganic contaminants in sediments, and pesticides in sediment and soil.

Site Responsibility: This site will be addressed through Federal actions.

NPL LISTING HISTORY
Proposed Date: 01/18/94

Threats and Contaminants



The soil is contaminated with phthalates, benzene, chloroform, PAHs, chromium, zinc, and pesticides. Sediments indicate elevated levels of various organic and inorganic contaminants, and pesticides. Groundwater is contaminated with chloroform. The River Gut is an intermittent stream that borders the site and discharges directly into the Caribbean Sea. Site wastes have been illegally discharged into this stream throughout the history of the site. Coming into contact with or ingesting contaminated soil, groundwater, or sediments poses a health risk.

Cleanup Approach

The site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup of entire site.

Response Action Status

Initial Actions: Between 1989 and 1991, the EPA removed over 250 drums containing various chemicals, and over 8,000 pounds of lab pack chemicals from the laboratory/warehouse building. In addition, the EPA conducted a site inspection at the facility during which groundwater, sediment, and soil samples were collected.

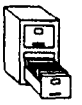
Entire Site: The EPA is planning an investigation of the nature and extent of contamination at the site. Once this investigation is completed, remedies for final site cleanup will be selected.

Site Facts: Two separate RCRA enforcement inspections were conducted at the site in September 1985 and March 1986 to verify the effectiveness of soil remediation and to determine RCRA compliance. The facility was not found to be in compliance, since it discharged wastes to the River Gut without a National Pollutant Discharge Elimination System (NPDES) permit.

Environmental Progress

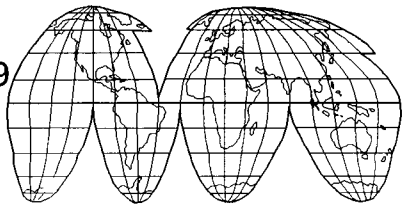
The removal of contaminated materials from the Island Chemical Corp./Virgin Island Chemical Corp. Site has reduced threats to the public while further studies are being planned.

Site Repository



Not yet established.

TUTU WELLFIELD
VIRGIN ISLANDS
EPA ID# VID982272569



EPA REGION 2
Tutu, eastern central St. Thomas

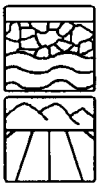
Site Description

The Tutu Wellfield site, located in a mountainous, semi-rural area, is a plume of contaminated groundwater covering an area approximately 108 acres in size. This contamination was first detected when a strong petroleum odor coming from the Tillet Well, a public water supply for the area, was reported. An investigation conducted by the Virgin Islands Department of Planning and Natural Resources (VIDPNR) indicated that volatile organic compounds (VOCs) were contaminating several public, institutional, commercial, and private wells. Water from some of these wells was transported to other parts of the island. Many contaminated wells, including the Tillet Well, were subsequently shut down. Potentially responsible parties identified by EPA include gasoline stations, auto repair stations, a dry cleaner, and a silk screening operation. These operations contain various possible sources of contamination such as petroleum and waste oil underground storage tanks, drum storage areas, contaminated catch basins, oil separators, floor drains, a sump holding tank, a leaching pit, above-ground storage tanks, and an evaporation pit. These operations also used various toxic materials including solvent-based auto flushes, dry cleaning fluids, dye strippers, ammonia hydroxide, and mineral spirits. Tutu Wellfield is part of the Upper Turpentine Run Basin. A stream leading to Turpentine Run is a few hundred feet from the site; Turpentine Run is approximately 3 miles from Mangrove Lagoon, which is hydraulically connected to the Caribbean Sea. The Atlantic Ocean is 1 mile from the site. Public and private wells within 4 miles of the site formerly supplied drinking water to an estimated 1,600 people.

Site Responsibility: This site is being addressed through Federal, Territorial and potentially responsible parties actions.

NPL LISTING HISTORY
Proposed Date: 02/07/92

Threats and Contaminants

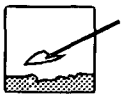


Groundwater, including several wells, is contaminated with VOCs such as benzene, toluene, and trichloroethene (TCE). Contaminants found in the groundwater also were detected in the soil on the properties of the various potentially responsible parties.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status



Immediate Actions: After detecting contaminants in groundwater, VIDPNR closed down Tillet Well, three private wells, and 13 commercial wells in 1987. EPA followed this action by decontaminating five residential cisterns using emergency funds, and providing an alternative water supply to these residences while monitoring of the remaining wells continued. In 1990, under an EPA order, Esso Standard Oil Co., Texaco Caribbean Inc., and L'Henri Dry Cleaner took over the monitoring program and continued to provide an alternate water supply to residences affected by groundwater contamination.

Entire Site: In early 1992, Texaco Caribbean Inc. and Esso Standard Oil Company began conducting site studies to determine the nature and extent of contamination and to identify cleanup alternatives. These studies are scheduled for completion in the fall of 1995.

Site Facts: VIDPNR issued an Administrative Order to Tutu Service Station and Tutu Esso Car Care in 1987. This order required the them to investigate the impact that the release of petroleum from their underground storage tanks had on the surrounding environment. Seven additional potentially responsible parties were identified later that year. A Unilateral Administrative Order, issued in 1990 by EPA to L'Henri Dry Cleaner, Esso Standard Oil Co., and Texaco Caribbean Inc., required them to take over the removal actions initiated by EPA. In early 1992, Texaco Caribbean Inc. and Esso Standard Oil Co. began conducting sites studies under an Administrative Order from EPA.

Environmental Progress

Closing contaminated wells and providing safe drinking water to affected residences has reduced the risk posed to the health and safety of the nearby population while additional site investigations are being conducted.